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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,139	06/02/2005	Coen Adrianus Verschuren	NL021227	1171
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EXAMINER				
HEYI, HENOK G				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/537,139

## Applicant(s)

VERSCHUREN ET AL.

## Examiner

HENOK G. HEYI

## Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06/02/2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because Fig. 1 is not properly labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for

patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Oonuki et al. EP 00913818 A1 (Oonuki hereinafter).

Regarding claim 1, Oonuki teaches a method of reading a magneto-optical recording medium (see Fig. 1) comprising a storage layer (5) and a readout layer (4), wherein an expanded domain leading to a readout pulse is generated in said readout layer by copying of a mark region from said storage layer to said readout layer upon heating by a radiation power and with the help of said external magnetic field (a magneto-optical recording medium comprising, at least a magnet-optical recording layer and auxiliary layers, when irradiated with reproducing light beam, a recording magnetic domain is magnified and transferred to the auxiliary layer, para [0007]), said method comprising the steps of: a) controlling the size of a spatial copy window (magnetic domains is adjusted so as to be smaller, para [0078]) of said copying process by varying a predetermined reading parameter in response to a control information derived from said readout pulse (the size of the magnetic domain should be smaller than that of recording magnetic layer, para [0012]), b) applying a predetermined additional pattern of change to said predetermined parameter (see para [0015] and para [0027]), and c) adjusting a decision level pattern used for deciding on a readout value in dependence on a characteristic parameter of said additional change pattern (phase adjustment circuit, para [0044]).

Regarding claim 2, Oonuki teaches a method according to claim 1, wherein said control information is derived from a deviation of the phase of a clock signal recovered from said readout pulse with respect to the average phase value of a clock signal derived from said readout pulse (the data channel clock controls encoder of the magnetic field application unit so that it generates a data signal of the reference clock period, para [0047]).

Regarding claim 3, Oonuki teaches a method according to claim 1, wherein said control information is derived from a deviation of the phase of a clock signal recovered from said readout pulse with respect to the phase of a wobbled groove or of a series of embossed marks provided on the recording medium (the data channel clock controls encoder of the magnetic field application unit so that it generates a data signal of the reference clock period, para [0047]).

Regarding claim 4, Oonuki teaches a method according to claim 1, wherein said readout value is a code run length (pulsed with a fixed period and is synchronized with code data onto a magneto-optical disc, para [0043]).

Regarding claim 5, Oonuki teaches a method according to claim 4, wherein said code run length is a space run length or a pulse position (pulsed with a fixed period and is synchronized with code data onto a magneto-optical disc, para [0043]).

Regarding claim 6, Oonuki teaches a method according to claim 1, wherein said predetermined parameter corresponds to the value of said radiation power and/or said external magnetic field (when irradiated with a reproducing light beam, a recording magnetic domain

recorded in the magneto-optical recording layer is magnified and transferred to the auxiliary magnetic layer, para [0007] and a recorded signal is reproduced by applying to a magneto-optical recording medium an external magnetic field, para [0025]).

Regarding claim 7, Oonuki teaches a method according to claim 1, wherein said additional change pattern is a periodic modulation pattern having a predetermined frequency, and wherein said characteristic parameter corresponds to the sign and/or amplitude of said periodic modulation pattern (laser is modulated with a fixed frequency by laser drive circuit such that it is synchronized with the data channel clock, para [0047]).

Regarding claim 8, Oonuki teaches a method according to claim 1, wherein said decision level pattern comprises at least one decision level (Recording pulse width/phase adjustment circuit 51 (first synchronization signal generating circuit) receives a clock signal, to be described, from a PLL circuit 39 and generates a first synchronization signal for adjusting the phase and pulse width of the recording beam, para [0043]).

Regarding claim 9, Oonuki teaches a method according to claim 8, wherein the decision level of said decision level pattern is adjusted to a respective intermediate level (Recording pulse width/phase adjustment circuit 51 (first synchronization signal generating circuit) receives a clock signal, to be described, from a PLL circuit 39 and generates a first synchronization signal for adjusting the phase and pulse width of the recording beam, para [0043]).

Regarding claim 10, Oonuki teaches a method according to claim 9, wherein said respective intermediate level is selected from at least one discrete intermediate level (an

optimum value is selected based on various factors such as the magnetic properties of the magnetic layers constituting the magneto-optical recording medium, para [0068]).

Regarding claim 11, Oonuki teaches a method according to claim 10, wherein said at least one discrete intermediate level comprises a first intermediate level corresponding to a first range of said characteristic parameter and a second intermediate level corresponding to a second range of said characteristic parameter (an optimum value is selected based on various factors such as the magnetic properties of the magnetic layers constituting the magneto-optical recording medium, para [0068]).

Regarding claim 12, Oonuki teaches a method according to claim 9, wherein said predetermined additional pattern is selected such that DC-free readout data is obtained, and wherein said adjusting step is performed through monitoring of running sums calculated for each set of intermediate levels (four combinations may be considered for selection of one or other of "continuous (DC)" or "pulsed" for the magnetic field and laser beam, Para [0067]).

Regarding claim 13, Oonuki teaches a method according to claim 12, wherein said decision level pattern is adjusted by respective loop filter means to which said separate running sums are supplied (Recording pulse width/phase adjustment circuit 51 (first synchronization signal generating circuit) receives a clock signal, to be described, from a PLL circuit 39 and generates a first synchronization signal for adjusting the phase and pulse width of the recording beam, para [0043]).

Regarding claim 14, Oonuki teaches a method according to claim 9, wherein said respective intermediate level is obtained by a continuous level adjustment (Recording pulse

width/phase adjustment circuit 51 (first synchronization signal generating circuit) receives a clock signal, to be described, from a PLL circuit 39 and generates a first synchronization signal for adjusting the phase and pulse width of the recording beam, para [0043]).

Regarding claim 15, Oonuki teaches a method according to claim 1, wherein said control information is obtained from a deviation of a maximum value of a phase error of said recovered clock signal from a predetermined set value (a control unit for controlling at least one of the magnetic head and optical head in accordance with the reproducing clock in order to pulse-modulate at least one of the reproducing magnetic field in accordance with the reproducing clock, para [0027]).

Regarding claim 16, Oonuki teaches a reading apparatus (see Fig. 7) for reading from a magneto-optical recording medium (100) comprising a storage layer and a readout layer, wherein an expanded domain leading to a readout pulse is generated in said readout layer by copying of a mark region from said storage layer to said readout layer upon heating by a radiation power and with the help of an external magnetic field (a magneto-optical recording medium comprising, at least a magnet-optical recording layer and auxiliary layers, when irradiated with reproducing light beam, a recording magnetic domain is magnified and transferred to the auxiliary layer, para [0007]), said apparatus comprising: a) control means for controlling the size of a spatial copy window of said copying process through variation of a predetermined reading parameter in response to a control information derived from said readout pulse (a control unit for controlling the optical head so as to produce pulse modulation of the reproducing light beam in accordance with the reproducing clock, para [0026]), b)



change means (32) for applying a predetermined additional pattern of change to said predetermined parameter (see para [0015] and para [0027]), and c) adjusting means for adjusting a decision level pattern used for deciding on a readout value in dependence on a *characteristic* parameter of said additional change pattern (Recording pulse width/phase adjustment circuit 51 (first synchronization signal generating circuit) receives a clock signal, to be described, from a PLL circuit 39 and generates a first synchronization signal for adjusting the phase and pulse width of the recording beam, para [0043]).

Regarding claim 17, Oonuki teaches a reading apparatus according to claim 16, wherein said adjusting means comprise comparator means (271) for setting said decision level pattern and summing means (RDS1, RDS2) for calculating at least one running sum used for adjusting said decision level pattern (Recording pulse width/phase adjustment circuit 51 (first synchronization signal generating circuit) receives a clock signal, to be described, from a PLL circuit 39 and generates a first synchronization signal for adjusting the phase and pulse width of the recording beam, para [0043]).

Regarding claim 18, Oonuki teaches a reading apparatus according to claim 17, wherein said adjusting means comprise loop filter means (272, 273) for filtering said at least one running sum (Recording pulse width/phase adjustment circuit 51 (first synchronization signal generating circuit) receives a clock signal, to be described, from a PLL circuit 39 and generates a first synchronization signal for adjusting the phase and pulse width of the recording beam, para [0043]).

Regarding claim 19, Oonuki teaches a reading apparatus according to claim 17, wherein said adjusting means comprise adding means (275) for adding said at least one running sum to an input signal of said comparator means (Recording pulse width/phase adjustment circuit 51 (first synchronization signal generating circuit) receives a clock signal, to be described, from a PLL circuit 39 and generates a first synchronization signal for adjusting the phase and pulse width of the recording beam, para [0043]).

Regarding claim 20, Oonuki teaches a reading apparatus according to claim 16, wherein said input signal is obtained from a phase-locked loop circuit of a clock recovery means used for generating said control information (Recording pulse width/phase adjustment circuit 51 (first synchronization signal generating circuit) receives a clock signal, to be described, from a PLL circuit 39 and generates a first synchronization signal for adjusting the phase and pulse width of the recording beam, para [0043]).

Regarding claim 21, Oonuki teaches a reading apparatus according to claim 16, wherein said change means (32) are arranged to use a periodic pattern of a predetermined frequency as said predetermined additional change pattern (laser is modulated with a fixed frequency by laser drive circuit such that it is synchronized with the data channel clock, para [0047]).

### **Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENOK G. HEYI whose telephone number is (571)270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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September 2, 2008

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